ABSTRACT OF THE DISCLOSURE

A charged particle beam exposure system which exposes a pattern on an object to be exposed, while controlling the irradiation light of charged particle beams, based on correction exposure information appropriately selected and calibration information for correcting variations in the irradiation light among the charged particle beams. This system includes (a) a storage device storing (i) standard dose data for controlling the irradiation of the charged particle beams to an object to be exposed, (ii) plural pieces of proximity effect correction data for correcting the irradiation of the charged particle beams for each incidence position with respect to the object to be exposed, in order to reduce the influence of a proximity effect, and (iii) calibration data for correcting variations in the irradiation dose among a plurality of the charged particle beams, and (b) a controller for controlling the irradiation of each of the charged particle beams, based on the standard dose data, the proximity effect correction data, and the calibration data.